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ABSTRACT

The economic impact of Georgia State University on Atlanta was assessed. The survey methodology of Salley (1976) was employed, and the differential expenditure multiplier was recomputed using local value added data. Attention was directed to: university enrollment, payroll, and spending; estimated student and staff spending; calculation of the local multiplier; calculation of employee equivalent of student spending; and computation of the university's total impact on local income and employment. Findings include the following: the university directly provided 2,044 full-time jobs and 1,630 part-time jobs in 1983; university-related spending generated an additional 3,143 positions in the Atlanta community; the university's local purchases amounted to $14,611,381 in fiscal year 1983; the average student annually spends $14,426 in the local economy; faculty, administrators, and staff members spend locally an average of $16,515; direct spending by the university, staff, and students totaled $124,678,655, a conservative figure, since it omits spending by most part-time students; and since each dollar of direct spending turns over several times in the 15-county Atlanta metropolitan area, the total impact of Georgia State University was calculated at $199,485,848. (Author/SW)

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GEORGIA STATE UNIVERSITY SPENDING PATTERNS AND THE ATLANTA ECONOMY, 1983

Institutional Research Report No. 84-2

by

Ellen I. Posey

HE016638

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Highlights

* The University's local purchases amounted to $14,611,381 in Fiscal 1983.

* The average student annually spends $14,426 in the local economy.

* Faculty/administration/staff members spend locally an average of $16,515.

* Direct spending by the University, faculty/administration/staff, and students totaled $124,678,655. This figure is conservative since it omits spending by most part-time students.

* Since each dollar of direct spending turns over several times in the 15-county Atlanta metropolitan area, the total impact of Georgia State University was calculated at $199,485,848.

* The University directly provided 2,044 full-time jobs and 1,630 part-time jobs in 1983. University-related spending generated an additional 3,143 full-time positions in the Atlanta community.

Georgia State University Spending Patterns
and the Atlanta Economy, 1983

In addition to its primary aims of educating people and pushing forward the boundaries of human knowledge, Georgia State University also broadens the local social and political environment and, simultaneously, provides the community with jobs and considerable income.

It is difficult to translate the long-run benefits of expanded cultural activity and improved human resources into concrete measures. On the other hand, it is possible to study empirically the university's immediate value to the community in terms of employment and income. In 1976, the Office of Institutional Planning conducted such a study to give interested members of the Atlanta community a clearer picture of the substantial extra dividend of jobs and income which Georgia State University provides (Salley, 1976).

Using estimating techniques developed in previous studies at other postsecondary educational institutions, the Georgia State University impact study identified and measured three channels by which university-related spending enters the Atlanta income stream. These are direct university purchases, the university payroll, and spending by the student body.

These primary channels of direct spending, although substantial, do not give a complete picture, however. Because of the interdependence of a high-consumption mass-production economy, these initial purchases induce additional rounds of local spending. Consequently, the university's total economic influence is some multiple of the level of direct

spending. The 1976 study developed a model that estimated the Georgia State University spending multiplier to be 1.48. Thus, each dollar of initial university spending induces an additional forty-eight cents of income in the Atlanta metropolitan area.

Purpose

The purpose of the present study is to give interested members of the Atlanta community an up-to-date picture of the substantial extra dividend of jobs and income which Georgia State University provides. The study was undertaken at the request of the Executive Vice President and Provost and the Vice President for Academic Services.

In the ensuing years since the initial economic impact study appeared, substantial growth has occurred in the dollar amounts which Georgia State University distributes to Atlanta for educational and general expenditures. This flow of funds takes the form of payrolls (faculty/administration/staff) and various material purchases. During this same seven year period, the dollar amount spent by students has also increased. The growth in student expenditures has occurred despite a levelling off in the growth of the number of students. This growth reflects a rise in consumer prices since the initial impact study was conducted.

Previous Economic Impact Studies

During the 1960s and 1970s, economic impact studies became the vehicle to promote the positive attributes of nonprofit institutions for their local areas. Postsecondary educational institutions were prominent among these. A series of studies appeared calling attention to the substantial dividend of jobs and incomes a university provides its local community in the course of pursuing its primary educational and cultural aims (Acker, 1971; Bellenger, 1971; Bonner, 1968; Caffrey & Isaacs, 1971; Johnson, 1970; Kelly, 1971; Messner, 1969; Stordahl, 1966; University of Pittsburgh, 1972; Vizard, 1967).

Table 1

Summary Characteristics of Previous Impact Studies

Institution and year	Major contribution	Major shortcoming	Use of Multiplier
University of Bridgeport (1964)	Recognizes the "export" nature of college services	Considers only direct expenditures of university	No
Northern Michigan (1965)	Disaggregates university spending by types of goods	Considers only direct expenditures of university	No
Husson College (1967)	Makes first use of multiplier to estimate induced spending	Derivation of multiplier is not specific	Yes (2.0)
University of Colorado (1968)	Considers input/output analysis but rejects it as too costly	Ignores induced effects of student spending	Yes (1.37)
University of Connecticut (1969)	Recognizes cyclical stability of university employment	Includes no report of survey results	No
University of Florida (1970)	Justifies all university employment as basic	Basic employee equivalents of student spending are biased upward	Yes (1.4)
Wisconsin State University (1970)	Estimates future impact based on enrollment projections	Derivation of multiplier is not specific	Yes (2.0-2.3)
University of Alabama (1971)	Illustrates upward bias of aggregate employment multipliers	Produces unusually high multiplier resulting from aggregate approach	Yes (4.35)
Idaho State University (1971)	Makes first attempt to disaggregate student spending	Sample design leads to considerable bias	No
Eastern Kentucky University (1971)	Makes first use of student spending diaries	Derivation of multiplier is not specific	Yes (1.75)
University of Pittsburgh (1972)	Uses comprehensive data collection	There is no independent estimate of multiplier	Yes (2.0)
Kent State University (1973)	Uses specific calculation of university sector multiplier	Assumes university multiplier and service sector multiplier are same	Yes (1.09)
Georgia State University (1976)	Uses specific calculation of alternative multiplier models	Does not consider negative tax impact or positive human capital impact	Yes (1.48)
Georgia Institute of Technology (1978)	Estimates contribution of graduates and publications as well as economic impact	Gross input/output multiplier overstates local impact	Yes (2.92)

Source: Salley (1979)

Succeeding studies resolved several conceptual problems, one dealing with the manner in which university-related spending enters the income stream (Cook, 1970) and another dealing with the multiplier calculation used to estimate the additional income generated by these initial expenditures Wilson & Peterson, 1971; Salley, 1978). Table 1 summarizes the contributions of fourteen representative studies. Salley (1979) provided a comprehensive review of the economic impact literature. All of the studies estimate the demand for goods and services in the community resulting directly from expenditures by the university and its faculty and students.

Plan of the Study

The present research duplicates the survey methodology of Salley (1976) and also recomputes the differential expenditure multiplier using local value added data.

The estimation of the university's economic impact proceeds in six distinct phases:

(1) Collection of direct university enrollment, payroll and spending data.

(2) Survey and estimation of student spending.

(3) Survey and estimation of faculty/administration/staff spending.

(4) Calculation of the local multiplier.

(5) Calculation of employee equivalent of student spending.

(6) Computation of the university's total impact on local income and employment.

The Business Office provided state funds expenditure data for the fiscal year 1983. The data which were initially classified by university

object/expenditure code, were regrouped to correspond to the Standard Industrial Classification (SIC) used by the Department of Commerce. This was necessary because virtually all Department of Commerce local value-added and sales-payroll ratios are published only for the SIC code industry groups.

The Business Office also provided gross payroll figures for the 1983 fiscal year for full-time and part-time employees. The number of employees by category are from Personnel Services and the number of students by category came from the Office of the Registrar. (See Appendix A, "University Data.")

The Office of Institutional Planning conducted a survey of student spending patterns (Appendix B-2) and of faculty/administration/staff spending patterns (Appendix C-2). A random sample of the student body produced 1,709 complete responses and a 100 percent faculty/administration/staff survey produced 750 complete responses. Population estimates were then calculated from these results. (See Appendices B-3 and C-3).

Next, the local multiplier value was calculated (Appendix E). The calculation proceeds in three steps. First the payroll/sales ratio used as a proxy for local value added is calculated from census data. Next, the initial impact of local university purchases is calculated using the value added figures obtained in the first step (Appendix D). The multiplier value is then calculated using the local purchase impact figure from the second step, the gross payroll figures from Appendix A, and the results of the faculty/administration/staff spending survey.

The employee equivalent of student spending was then calculated in in order to assess the university's impact on generating additional local employment (Appendices F-1 and F-2). Finally, the total impact of the

university's spending on local income and employment was calculated using the local multiplier value.

Results

The immediate and tangible impact on Atlanta flows from three direct spending sources associated with Georgia State University. The first of these is the direct purchase of goods and services needed for the university's day-to-day operations. The second is the spending patterns of the university's faculty/administration/staff. And the third primary channel of economic impact is the spending patterns of the university's student body.

Local general funds purchases during Fiscal 1983 totaled $14,611,381 (Appendix D). This amount was the total of virtually all purchases since the university is located in the regional wholesale supply center and very few purchases are made outside the area. All local orders will not produce additional local income if the actual materials are manufactured elsewhere. However, local value added ratios adjust for this income leakage. Purely nonlocal initial purchases were limited to periodical subscriptions and some travel expenses.

The annual local spending by faculty/administration/staff for 1983 is estimated to be an average of $16,515.13 (Appendix C-3). Total local spending by 3,674 university employees is $36,954,583. Although this total figure includes 1630 part-time employees, their local expenditures cannot be attributed entirely to the university because payroll records indicate that only $4,949,933 was paid out to part-time personnel (see Appendix A). The ratio of full-time employee local spending (2044 X $16,515.13 = $33,756,926) to full-time employee payroll ($52,261,928) is .646 ($33,756,926 ÷ $52,261,928 = .646). Local spending by part-time employees attributable to the university is $3,197,657, or .646 of their gross payroll from the university (.646 X $4,949,933 = $3,197,657). Therefore, total local spending by faculty/administration/staff is $36,954,583 or the combined local spending of full-time employees ($33,756,926) and part-time employees ($3,197,657).

Annual local spending by students during 1983 is estimated to be $14,426.34 on average. Since many students are professionally employed in Atlanta and are incidentally enrolled in Georgia State University on a part-time basis, all student spending is not directly attributable to the university. This study found that 25.3 percent of the student body are living in Atlanta because of their enrollment in Georgia State University. Either they have moved to the area to attend this school, or they would have moved elsewhere to attend school if Georgia State University were not located in the Atlanta area. A total of 5,068 students fall in this category. Their spending is $73,112,691.

Total initial university spending from these three sources amounts to $124,678,655. The figure is conservative because it omits spending by most part-time students. To obtain the total local expenditure figure, this amount is increased by the local multiplier: 1.60 x $124,678,655 = $199,485,848. Figure 1 summarizes these findings.

Total local employment is estimated similarly. Initial employment is 3,242, consisting of the 2,044 full-time employees plus the 1,198 initial full-time jobs attributable to student spending. (Appendices F-1 and F-2). To obtain the total employment impact figure, this level is increased by the local multiplier. Using the estimator, 1.60, a total of at least 5,187 jobs in the Atlanta area may be attributed to Georgia State University.

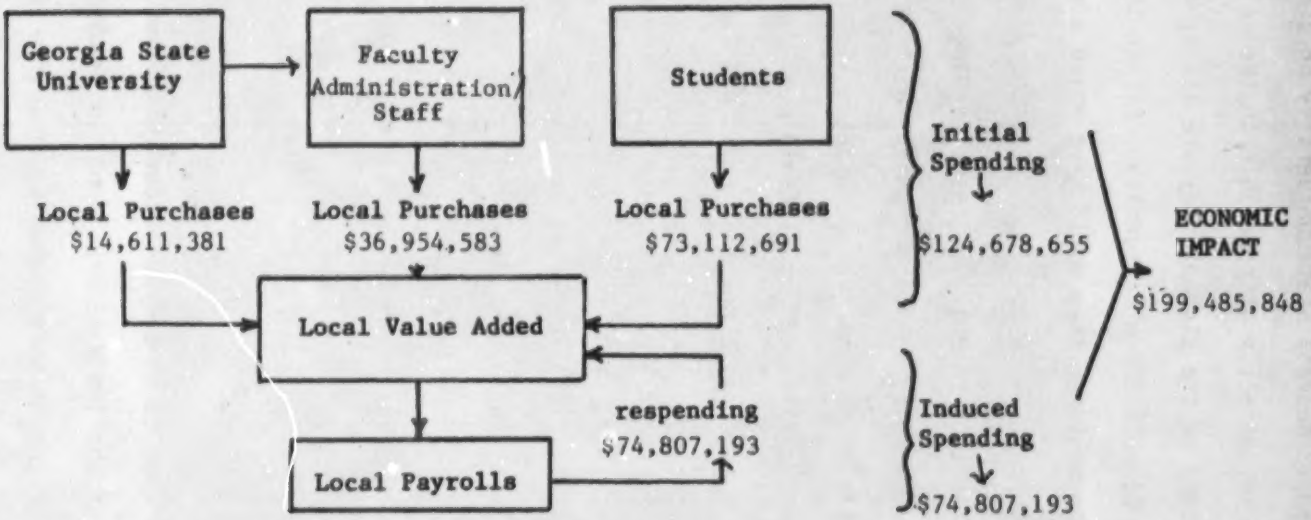
Summary

This study was undertaken at the request of the Executive Vice-President and Provost and the Vice President for Academic Services to give interested members of the Atlanta Community an up-to-date picture of the substantial extra dividend of jobs and income which Georgia State University provides.

The study used the Salley model (1976) and proceeded in six phases:

(1) Collection of direct university enrollment, payroll and spending data.

FIGURE 1. ATLANTA SPENDING PATTERNS FOR FISCAL YEAR 1983



(2) Survey and estimation of student spending.

(3) Survey and estimation of faculty/administration/staff spending.

(4) Calculation of the local multiplier.

(5) Calculation of employee equivalent of student spending.

(6) Computation of the university's total impact on local income and employment.

Highlights from the findings follow:

* The University's local purchases amounted to $14,611,381 in Fiscal 1983.

* The average student annually spends $14,426 in the local economy.

* Faculty/administration/staff members spend locally an average of $16,515 each.

* Direct spending by the university, faculty/administration/staff, and students totaled $124,678,655. This figure is conservative since it omits spending by most part-time students.

* But since each dollar of direct spending turns over several times in the 15-county Atlanta metropolitan area, the total impact of Georgia State University was calculated at $199,485,848.

* The University directly provided 2,044 full-time jobs and 1,630 part-time jobs in 1983. University-related spending generated an additional 3,143 full-time positions in the Atlanta community.

References

Acker, R. The economic impact of expenditures by out-of-state students at a regional state university. Institutional Research and Institutional Policy Formulation. Tallahassee, Florida: Association for Institutional Research, 1971, 128-133.

Bellenger, D. The income and employment impact of the University of Alabama on Tuscaloosa County. Alabama Business, 1971, 10, 1-6.

Bonner, E. The economic impact of a university on its local community. Journal of the American Institute of Planners, 1968, 5, 339-343.

Caffrey, J. & Isaacs, H. Estimating the impact of a college or university on the local economy. American Council on Education, 1971.

Cook, E. Analyzing university student contribution to the economic base of the community. Annals of Regional Science, 19709, 4, 146-153.

Johnson, J. The economic impact of a state university on its community. Unpublished dissertation, University of Missouri, 1970.

Kelly, J. & Peterson, R. How much money do students spend in a college town? College Management, 1971, 26-27.

Messner, S. Market analysis for the single industry community: an illustrative study of a university town. Storrs, Conn: University of Connecticut, 1969.

Salley, C. D. Georgia State University spending patterns and the Atlanta economy (Institutional Research Report No. 77-8). Atlanta: Georgia State University, Office of Institutional Planning, December, 1976.

Salley, C. D. Calculating the economic multiplier for local university spending. Research and Planning for Higher Education. Tallahassee, Florida: Association for Institutional Research, 1978, 49-54.

Salley, C. D. Georgia State University spending pattern and the Atlanta economy, 1978 (Institutional Research Report No. 79-8). Atlanta: Georgia State University, Office of Institutional Planning, February, 1979.

Schaffer, W. A. & Biven, W. C. The impact of Georgia Tech: Money, people, ideas. Atlanta: Georgia Institute of Technology, 1978.

Stordahl, K. & Pappas, C. Contribution of Northern Michigan University to the economy of the Marquette area. Office of Institutional Research, N.M.U., 1966.

University-Urban Interface Program, The impact of the University of Pittsburgh on the local economy. University of Pittsburgh, 1972.

Vizard, R. The economic impact of Husson College on Bangor, Maine. Unpublished master's thesis, University of Maine, 1967.

Wilson, J. & Raymond, R. Economic impact of a university on the local community. Annals of Regional Science, 1973, 130-142.

Appendices

A. University Data

B-1. Cover Letter-Student Survey

B-2. Student Survey

B-3. Estimation of Student Spending

C-1. Cover Letter-Faculty/Administration/Staff Survey

C-2. Faculty/Administration/Staff Survey

C-3. Estimation of Faculty/Administration/Staff Spending

D. Calculation of Initial Impact by University Purchases Using Local Value-Added

E. Computation of a Differential Expenditure Multiplier Using Local Value-Added

F-1. Atlanta SMSA Sales/Employee Ratios

F-2. Calculation of Employee Equivalent of Student Spending

Appendix A

UNIVERSITY DATA

1. Student Population (Spring Quarter, 1983)

	Male	Female	Total
Freshmen	1,013	1,189	2,202
Sophomore	992	1,326	2,318
Junior	1,368	1,645	3,013
Senior	2,028	2,456	4,484
Graduate	2,853	3,809	6,662
Other	570	782	1,352
Total	8,824	11,207	20,031

2. Faculty/Administration/Staff Population

	Full-Time	Part-Time
Faculty	762	275
Administration	104	--
Staff	1,178	1,355
Total	2,044	1,630

3. University Local University Expenditures = $14,611,381

4. Gross University Payroll for Fiscal Year 1983

Full-Time =	$52,261,928
Part-Time =	4,949,933
	$57,211,861

Appendix B-1

Georgia State University

university plaza
atlanta, georgia 30303

April 11, 1983

At the direction of the Executive Vice-President and Provost, the Development Office and the Office of Institutional Planning are updating the 1976 assessment of Georgia State University's economic impact on the Atlanta metropolitan area. The impact study should give interested members of the Atlanta community a continuing picture of the considerable contribution of the university in the way of jobs and income to Atlanta.

One source of the impact of the university on local employment is the spending patterns of Georgia State students. Would you please help us identify these spending patterns by allotting about ten minutes of your class time toward the completion of a student questionnaire?

Please complete and return the bottom portion of this letter to the Office of Institutional Planning through campus mail. The surveys will be distributed to you to be conducted in your class the week of April 25-29. Please contact Ms. Ellen Posey at 658-2570 if you have questions. Thank you for your help.

Sincerely,

Ralph Beck
Assistant Vice President for Development

/ssm

Please indicate when you can conduct the survey in your class week April 25-29:

Day	Time	Classroom & Building	Number of Students
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Your name and department_____

STUDENT QUESTIONNAIRE

1. How long have you been living in the Atlanta area? _____(years) ___ ___

2. What year were you first enrolled as a G.S.U. student? _____ ___ ___

3. What is your current age? _____ ___ ___

4. Class: Freshman _____ Junior _____ Graduate _____ ___
   Sophomore _____ Graduate _____ Other _____

5. Female _____ Male _____ ___

6. Married _____ Single, Divorced, Widowed _____ ___

7. Full-time student _____ Part-time student _____ ___

8. G.S.U. location in Atlanta influenced your decision to live in the Atlanta area _____Greatly, _____Somewhat _____ Not at all ___

9. What do you spend each quarter for tuition and fees? _____ ___ ___ ___ ___
   Books and supplies? _____ ___ ___ ___ ___

10. Please estimate your average monthly expenditures:

	Within 15-County Atlanta metro area	
Rent or house payment	$_____	___ ___ ___ ___
Utilities (gas, lights, telephone, etc.)	_____	___ ___ ___ ___
Food consumed at home and household items	_____	___ ___ ___ ___
Eating Out (restaurants, fast-food establishments, etc.)	_____	___ ___ ___ ___
Entertainment (sports, concerts, movies, etc.)	_____	___ ___ ___ ___
Automobile (payment, repairs, gas, insurance)	_____	___ ___ ___ ___
Other Transportation (bus, carpooling, etc.)	_____	___ ___ ___ ___
Clothing	_____	___ ___ ___ ___
Personal Services (hair, laundry, repairs)	_____	___ ___ ___ ___
Health Services (including insurance)	_____	___ ___ ___ ___
Furniture & Appliances	_____	___ ___ ___ ___
Other	_____	___ ___ ___ ___

Appendix C-1

Georgia State University

university plaza
atlanta, georgia 30303

April 10, 1983

MEMORANDUM TO: Faculty and Staff

At the direction of the Executive Vice-President and Provost, the Development Office and the Office of Institutional Planning are updating the 1976 assessment of Georgia State University's economic impact on the Atlanta metropolitan area. The impact study should give interested members of the Atlanta community a continuing picture of the considerable contribution of the university in the way of jobs and income to Atlanta.

One source of the university's impact on local employment is the spending patterns of the faculty and staff. Would you please help us identify these patterns by completing the attached questionnaire? Procedures have been adopted which will insure that personal anonymity is maintained. There is no interest in identifying individuals or the spending habits of particular people.

You may find that consultation with other members of the household will be helpful in estimating some of the values requested. Even a rough approximation will be helpful in the overall estimation of these impacts.

Thank you for your cooperation. The questionnaires can be returned through campus mail.

Sincerely,

Ralph Beck
Assistant Vice President for Development
Chairman, Economic Impact Study Committee

/sss

Appendix B-3

ESTIMATION OF STUDENT SPENDING (SPRING 1983)
STRATIFIED RANDOM SAMPLING*

				Percent Distribution					
	N	Male	Female	Freshman	Sophomore	Junior	Senior	Graduate	Other
Student Population	(20,031)	44.1	55.9	11.0	11.6	15.0	22.4	33.3	6.7
Student Sample	(1,709)	44.2	55.8	11.6	15.2	28.7	18.8	20.5	5.2

Spending Category	Sample Annual Average	Weighted Annual Average †
Books	$ 287.56	$ 281.74
Housing	3896.40	3937.26
Utilities	1260.36	1276.74
Food and Household	1788.00	1858.80
Eating Out	740.76	754.71
Entertainment	564.60	559.81
Automobile	1897.92	1940.43
Other Transportation	309.36	323.63
Clothing	695.04	710.63
Personal Services	338.52	349.07
Health Services	651.72	653.29
Furniture and Appliances	598.80	605.11
Other	1129.68	1175.12
Total	$14158.72	$14426.34

*Reference: Wonnacott, T.H., and Wonnacott, R.J., Introductory Statistics for Business and Economics, John Wiley and Sons, 1972, p. 529

† Weighting Factors are the ratios of total population enrollment for each class to the total for all classes, i.e., 11.0% for freshmen, 11.6% for sophomores, etc.. Factors are based on class rather than sex because the deviation of the population and sample distribution is greater by class.

FACULTY/STAFF QUESTIONNAIRE

The following items are intended to help estimate the economic impact of Georgia State University on the Atlanta metropolitan area.

A. What is your primary employment status at Georgia State University? ___

_____ Full-time faculty
_____ Part-time faculty
_____ Full-time administration
_____ Part-time administration
_____ Full-time staff
_____ Part-time staff

B. In what type of housing do you reside? ___

_____ Rent
_____ Own home

C. What is the zip code of your current address? _____ ___ ___ ___ ___ ___

Please estimate you average monthly expenditures:

D.	Rent or house payment (include condo. maintenance fee) _____	___ ___ ___ ___
E.	Utilities (water, gas, lights, telephone) _____	___ ___ ___ ___
F.	Food consumed at home & household items _____	___ ___ ___ ___
G.	Eating out (restaurants & fast food establishments) _____	___ ___ ___ ___
H.	Entertainment (theatre, sports, concerts, etc.) _____	___ ___ ___ ___
I.	Automobile (payments, repairs, gas, insurance) _____	___ ___ ___ ___
J.	Other transportation (bus, carpooling, etc.) _____	___ ___ ___ ___
K.	Clothing _____	___ ___ ___ ___
L.	Personal services (laundry, hair, repairs) _____	___ ___ ___ ___
M.	Health services (including insurance) _____	___ ___ ___ ___
N.	Furniture and appliances _____	___ ___ ___ ___
O.	Other _____	___ ___ ___ ___

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Appendix C-3

ESTIMATION OF FACULTY/ADMINISTRATION/STAFF SPENDING (SPRING 1983)
STRATIFIED RANDOM SAMPLE

	N	Full-Time Faculty	Part-time Faculty	Full-Time Administrators	Full-Time Staff	Part-Time Staff
Population	(3674)	20.7	7.5	2.8	32.1	36.9
Sample	(750)	41.3	4.9	9.6	40.7	3.5

Spending Category	Sample Annual Average	Weighted Annual Average*
Housing	$4932.48	4424.60
Utilities	1666.68	1502.09
Food and Household	2844.72	2581.86
Eating Out	1047.12	915.39
Entertainment	573.48	499.78
Automobile	2541.60	2258.06
Other Transportation	295.32	266.04
Clothing	896.04	686.02
Personal Services	502.08	377.22
Health Services	805.80	639.92
Furniture	807.84	649.13
Other	2041.80	1715.02
Total	$18954.96	$16515.13

*Weighting factors are the ratios of faculty/administration/staff population in each category, to the population total, i.e., 20.7% for full-time faculty, 7.5% for part-time faculty, etc.

Appendix D

CALCULATION OF INITIAL IMPACT BY UNIVERSITY PURCHASES*
USING LOCAL VALUE-ADDED RATIOS

(1) Item	(2) Amount of Local Purchase	(3) SIC Code	(4) Value Added Ratio †	(5) Value Added Amount (2) x (4)
Employee Travel and Benefits	$ 692,403	7000	.328	$ 227,108
Taxes and Utilities	3,263,541		.397††	1,295,626
Trade Purchases (Wholesale and Retail)	5,608,394	5000	.130	729,091
Finance and Insurance	56,734	7300	.407	23,091
Rental	1,872,227		.219 ††	410,018
Repair Services	2,043,436	7600	.325	664,117
Business Services	963,054	7300	.407	391,963
Vehicle Repair and Service	63,436	7500	.221	14,019
Other	48,156	5000	.130	6,260
TOTAL	$14,611,381			$3,761,293

*Adapted from S. R. Bresler, "Multiplier for a Public Program," unpublished dissertation, Georgia State University, 1974, pp. 35-37.

† Atlanta sales-payroll ratios are calculated from data presented in:
Census of Retail Trade, U. S. Department of Commerce 1977, Vol.2, pt.1, Table 4.
Census of Service Industries, U. S. Department of Commerce 1977, Vol.2, pt.1, Table 4.
Census of Wholesale Trade, U. S. Department of Commerce 1977, Vol.2, pt.1, Table 4.

†† J. Wilson, "Economic Impact of a University on the Local Economy," unpublished dissertation, Kent State University, pp. 148 & 153.

APPENDIX E

COMPUTATION OF A DIFFERENTIAL EXPENDITURE MULTIPLIER* USING LOCAL VALUE ADDED

$$m = 1 \frac{r}{1-s}$$ where r=initial spending, s=re-spending ratio

A. Computation of r, the proportion of total university spending that is spent locally.

1. Local consumption by university employees (survey) $36,954,583.
2. Gross payroll to university local employees $57,211,861.
3. Portion of payroll spent locally (1) ÷ (2) = .646. (Proxy for all local payroll spending)
4. Value added by university's local purchases (Appendix D) $3,761,293.
5. Initial local income generated by purchases (3) x (4) = $2,429,795.
6. Total initial local spending (1) + (5) = $39,384,378.
7. Total university spending (all purchases + 2) + $71,823,242.
8. Ratio of initial local spending to total spending (6) ÷ (7) = .548.

B. Computation of s, secondary local spending induced by initial local spending.

9. Local value added by total local spending (6) x (.130†) = $5,119,969.
10. Induced local spending (9) x (3) = $3,307,500.
11. Ratio of induced local spending to initial local spending (10) ÷ (6) = .084.

C. Computation of multiplier.

12. 1.000 - (11) = .916.
13. (8) ÷ (12) = .598.
14. 1.000 + (13) = 1.598.

*Adapted from S. R. Bresler, "Multiplier for a Public Program," unpublished dissertation, Georgia State University, 1974, pp. 34-46.

† Trade purchases value added, Appendix D, col. (4); Bresler, p. 44.

Appendix F-1

ATLANTA SMSA

SALES/EMPLOYEE RATIOS

(1) Sector	(2) SIC Code	(3) Sales* (000's)	(4) Employees	(5) Sales/Employees (3) (4)
Books and Supplies	594	$ 295,277	3,934	$ 75,058
Food and Household	540	2,060,470	13,432	153,400
Eating Out	581	987,156	35,954	27,456
Entertainment	780& 790	327,926	5,143	63,762
Automobile	554-5	3,256,973	16,736	194,609
Clothing	560	458,915	6,468	70,952
Personal Services	720	259,241	9,872	26,260
Health Services	591	328,424	4,058	80,933
Furniture and Appliances	570	401,061	3,979	100,794
Miscellaneous	590	997,041	14,231	70,061
Rent				96,427†
Utilities				26,542†

*Atlanta Sales/Employee Ratios are calculated from data presented in:
Census of Retail Trade, U. S. Department of Commerce 1977, Vol.2, pt.1, Table 4.
Census of Service Industries, U. S. Department of Commerce 1977, Vol.2, pt.1, Table 4.
Census of Wholesale Trade, U. S. Department of Commerce 1977, Vol.2, pt.1, Table 4.
Census data are converted to 1983 prices with the ratio of 1977 (177.1) to 1983 293.2) indexes. See Federal Reserve Bulletin, April 1977, Table A51 & April 1983, Table A51.

† J. Wilson, "Economic Impact of a University on the Local Economy," unpublished dissertation, Kent State University, pp. 148 & 153.

Appendix F-2

CALCULATION OF EMPLOYEE EQUIVALENT OF STUDENT SPENDING

(1) Student Spending Category	(2) Annual Amount of Local Purchases*	(3) Local Sales/Employee†	(4) Employee Equivalent (2) ÷ (3)
Books and Supplies	$ 1,427,858	$ 75,058	19.0
Rent	19,954,034	153,400	130.1
Utilities	6,470,518	27,456	235.7
Food and Household	9,420,398	63,762	147.7
Eating Out	3,824,870	194,609	19.7
Entertainment	2,837,117	70,952	40.0
Automobile	9,834,099	26,260	374.5
Clothing	1,640,157	80,933	20.3
Personal Services	3,601,473	100,794	35.7
Health Services	1,769,087	70,061	25.3
Furniture and Appliances	3,310,874	96,427	34.3
Other	3,066,697	26,542	115.5
TOTAL	$67,157,182		1197.8 (University Employment Equivalent generated by local student spending)

*Data from Student Spending Survey. Total for only 25.3% of student population (5068) drawn to Atlanta by Georgia State University.

†Values from Appendix F-1, column 5.

Reference: J. H. Wilson and R. Raymond, "Economic Impact of a University on the Local Community," Annals of Regional Science, (vol.7) December 1973, p.141.